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AMO's Policy Position on: SCRAP TIRE MANAGEMENT AND THE ONTARIO TIRE TAX

Association of Municipalities of Ontario
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MISSION STATEMENT

AMO unites Ontario's municipalities.

We take pride in promoting, supporting and enhancing strong and effective municipal government.

We provide strategic leadership by:

- developing and effectively promoting responsive quality policy;
- informing and educating governments, the media and the public;
- marketing innovative and beneficial services.

Our elected representatives, municipal officials and association staff form a team which values and respects:

- diversity and local autonomy;
- fairness and equity;
- consultation;
- consensus;
- co-operation.

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EXECUTIVE SUMMARY

Every year, seven to eight million scrap tires are generated in Ontario. More than 60 per cent of these end up in landfills and another 10 per cent are stored in "tire piles". Less than 700,000 tires per year are recycled.

Municipalities are concerned about this situation and that concern has increased since mid-February 1990, when there was a major tire fire near Hagersville, in southern Ontario. The fire caused serious environmental concerns and cost much public money to both end the fire and clean up the site. Other tire fires have also occurred in Ontario and Quebec.

Provincial Initiatives

The Ontario government has worked on scrap tire waste management for some time. It established a multi-sector advisory group, the Ontario Scrap Tire Task Force, introduced an Ontario Tire Tax plus more stringent regulations for stockpiled tires, and released several reports. The reports have said: large-scale tire recycling facilities do not exist in Ontario, and tire-derived fuel (TDF) should be used to prevent tire stockpiling - and the accompanying fire hazard - while rubberized asphalt and an infrastructure to turn scrap tires into value-added products are being developed.

Despite this work, the provincial government still has not developed a scrap tire policy. The current Minister of the Environment has stated her preferences, which were: establishing short-term receiving facilities for storing scrap tires while production capacity and end markets for recycled products containing rubber from tires are being developed; use, in the meantime, of a large volume of crumb rubber in such options as rubberized asphalt, if it is viable; if rubberized asphalt is not viable, judging the merits of tire-derived fuel as an intermediate "fall-back" option; and provincial support for developing a sustainable tire recycling industry which would manufacture value added products from the rubber.

Ontario's Municipalities

Ontario's municipalities are very concerned about these "preferences". In order to preserve precious landfill space, more have started banning tires from their landfills. But, with no provincial policy on scrap tire management, no incineration allowed, and few tire recycling facilities, more municipalities are struggling with how to cope with the scrap tire waste problem. They do not see the

institutionalization of stockpiles, even in the short-term, as an option because of storage cost and problems, and the potential of more tire fires such as in Hagersville.

AMO's Position

AMO's Policy Position on: Scrap Tire Management and the Ontario Tire Tax provides a background of the provincial, industrial and municipal positions on scrap tire management. Its three recommendations also state the Ontario government should: 1) spend 100 per cent of the money collected from the Ontario tire tax to find a satisfactory method for dealing with Ontario's scrap tire waste problem; 2) increase the pace at which the short-term policy solutions for the scrap tire problem are being addressed and then introduced. This should continue to be done in consultation with municipalities and it should result in a provincial scrap tire policy statement rather than a letter or a news release; and 3) a) approve the use of tire-derived fuel, b) use rubberized asphalt if it is subjected to, and meets, environmental and performance standards, c) use other processes by which value-added products are created from scrap tires, d) not pursue the philosophy, even in the short-term, of stockpiling scrap tires, e) ensure the systems which are implemented are user-pay, and f) use all haste in pursuing the options which AMO supports as a long-term solution to scrap tire management in Ontario.

In laying out this framework for a scrap tire management policy for Ontario, the Association of Municipalities of Ontario and its member-municipalities emphasize that stockpiling as a means for dealing with scrap tires is unacceptable. A better solution must be found and municipalities wish to work with the province to ensure this is done. But development of a provincial policy must be done soon or Ontario will be faced with more environmentally dangerous, expensive tire fires, such as the one at the Tyre King site in Hagersville.

1 INTRODUCTION

Every year, seven to eight million scrap passenger car and truck tires are generated in Ontario. More than 60 per cent of these end up in landfills and another 10 per cent are stored in "tire piles". Less than 700,000 tires per year are recycled.[1]

Municipalities are concerned about this situation and their concerns have increased since mid-February 1990, when a major "tire fire" occurred near Hagersville, in Wapole Township in southern Ontario. The fire, which occurred in a Tyre King tire storage site containing about 13 million scrap tires[2], was caused by arson and five youths were later charged. The fire lasted seventeen days and the site took more than one year to clean up.

The Tyre King fire highlighted municipalities' concerns about the inadequate state of scrap tire waste management in Ontario. The fire caused serious environmental concerns and cost much public money to both end the fire and clean up the site. During the fire, there were concerns that several toxic chemicals - such as benzene, toluene, dioxin, carbon monoxide, and nitrogen oxide - were being released into the environment through the air and water run-off.[3] In its report on the environmental damage caused by the fire, released in March 1991, the Ontario Ministry of the Environment (MOE) also noted:

a) some surface water from the site escaped into a local creek in the early days of the fire and in March 1991, the surface water run-off and water from the shallow aquifer was still "continuing" to improve in quality;

b) contaminated oil sank into the ground and contaminated the groundwater in the shallow aquifer;

c) the MOE had to collect both the surface water run-off and groundwater, and the oil mixture, which was disposed of at a hazardous waste disposal facility; and

d) most of the soil at the site required treatment or disposal.[4]

The Tyre King fire was also very expensive for government. The MOE staff was unable to provide AMO with a total figure, but several components of the cost are known. During the fire, families had to be moved away from their homes near the tire site, and later they were compensated by the province's Environmental Compensation Corporation. By mid-November 1990, the Ontario government had spent at least $1.7 million on the situation[5], including hiring security guards to prevent further arson, and MOE staff said that amount did not include all of the internalized government costs. By the summer of 1991, there was also a labyrinth of legal suits. In July 1991, the provincial government launched a $100 million lawsuit against the parties involved in the fire - $50 million for general damages and $50 million for special damages to extinguish the fire and clean-up the site.[6] The 25 families which were moved from their homes during the fire had sued the province, regional municipality, Tyre King owner, and others for more than $8.6 million in compensation, and the Tyre King site owner was reportedly suing the province for rejecting his earlier plans to recycle tires.[7]

While the Tyre King fire in 1990 may have been one of the most publicized tire fires, it has not been the only one. There was another tire fire at the same Tyre King site in 1977, and throughout 1990, fires of various sizes were reported in tire sites in a privately-owned Ontario quarry, a Markham scrap yard, a York region scrap yard, and also in Chelsea and St.-Amable, Quebec.

Under these circumstances, municipalities are concerned about tires being stockpiled. This is even more true since they are also becoming increasingly concerned about scrap tires going to landfills. The Ontario MOE has previously estimated that 160 Ontario landfills have less than two years of approved capacity left. At a Cabinet meeting with the Association of Municipalities of Ontario (AMO) on September 25, 1991, the Minister of the Environment, the Honourable Ruth Grier, said she had just learned that between 70 and 80 landfill sites across Ontario are going to reach their capacity by the end of 1991. With new landfills becoming more difficult to site because of the increasingly stringent approval requirements and the public's "not-in-my-backyard" syndrome, whereby the public does not want landfills located near its neighbourhoods, more municipalities are trying to preserve their existing landfill space. This

impacts on tires, which are difficult to landfill since they float to the surface unless they are shredded and that is a very expensive process. In this situation, more Ontario municipalities are now beginning to prevent scrap tires from entering their landfills. With no tire incineration in Ontario and few recycling opportunities, this means more tires are being stockpiled. That then leads to an increased risk of tire fires, such as that at the Tyre King site in Hagersville.

The Ontario government has begun to develop a scrap tire waste management strategy, but municipalities are concerned with some of the directions which the Minister of the Environment has indicated the province plans to take. In the meantime, while the province waits for an official scrap tire management policy from its government, municipalities are struggling to cope with a very difficult waste management problem regarding scrap tires.

The Association of Municipalities of Ontario (AMO) has developed this policy position on scrap tires and the Ontario tire tax to present municipalities' concerns and policy suggestions to both the Minister of Environment and Minister of Municipal Affairs. The paper provides a background of the provincial initiatives taken to date, a synopsis of the municipal initiatives now being employed and concerns being expressed, and recommendations which AMO urges the province to incorporate into a scrap tire waste management strategy. AMO hopes to work with the provincial government to develop a cohesive, practical strategy to address this problem before Ontario is faced with more environmentally dangerous, expensive tire fires, such as the one at the Tyre King site in Hagersville.

2 ONTARIO GOVERNMENT POSITION

2.1 A History of Initiatives

The Ministry of Environment (MOE) has been considering the issue of scrap tire waste management for some years. In November 1986, it and the Ministry of Energy released the Ontario Scrap Tires Inventory Study: Final Report, which was to form the basis for developing and evaluating options to reduce, reuse, recycle and recover scrap tires in Ontario. In August

1989, the MOE also released a Scrap Tire Recycling Background Paper, which noted large-scale tire recycling facilities did not exist, scrap tires should not be disposed of in landfills, and tire piles represented an environmental threat. The MOE's next step was triggered by private sector concerns regarding scrap tire waste management. In the fall of 1988, the Rubber Association of Canada formed a Task Force on Scrap Tire Disposal, which investigated Canada's scrap tire problem. The Rubber Association issued its report, Scrap Tires in Canada, in May 1989. The report's main conclusions were that reuse and recycling processes could only, optimistically, divert from disposal less than one-third of the scrap tires generated and that the development of tire-derived fuel (TDF) offered the potential short-term solution to Canada's scrap tire issue.

In the fall of 1989, the Rubber Association of Canada and Ontario Tire Dealers Association met with Ontario's MOE to discuss how the private sector could help to manage Ontario's scrap tire problem. The MOE responded in October 1989 by calling together an ad hoc group of representatives from the Rubber Association of Canada, the Ontario Tire Dealers Association, the Recycling Advisory Committee, and the MOE to discuss scrap tire management in Ontario. The ad hoc group decided to create an Ontario Scrap Tire Task Force, which began meeting in late 1989 and continues today with an AMO representative.

2.2 Tire Tax Introduced

On June 1, 1989, the Ontario government began charging a five dollar tax - $5.40 with provincial sales tax - on every new tire sold in Ontario. The tax was motivated by the problem of trying to dispose of an accumulation of scrap tires in Ontario[8] and, at the time it was introduced in the 1989-1990 provincial budget, AMO noted that the tax was designed to help the provincial government's environmental programs, particularly for recycling and environmentally-sound disposal. Since that time, however, the tire tax revenue has been forwarded to the province's consolidated revenue fund and not to solving the tire disposal problem in Ontario.

Ontario's tire tax, which is currently the highest tire tax in any North American jurisdiction, generates an estimated revenue of $40 million per year.

2.3 After the Fire

After the February 1990 Tyre King fire, the Ontario government announced several initiatives regarding scrap tires in Ontario. On March 15, 1990, Ontario's Minister of the Environment announced a five-part, $16 million tire recycling program. This included:

a) support for collecting, handling and sorting used tires;

b) funds for developing and implementing used tire processing and recycling technologies;

c) money to research tire-derived products and market development;

d) a security program to secure, clean up and eliminate large tire stockpiles in Ontario; and

e) funds to underwrite the use of recycled tire rubber in rubberized asphalt paving for roads, walks and parking lots.

At the same time, the provincial government announced it planned to strengthen its regulations for securing waste tire storage sites. It required 24-hour security guards be posted at most of Ontario's eleven largest tire sites with 100,000 or more tires. It promised to inspect 49 smaller sites, storing 5,000 or more tires, to ensure these complied with the Fire Code and the Environmental Protection Act. Site owners were required to apply for MOE Certificates of Approval requiring security fencing, buffer zones or other environmental protection. Owners of these sites were also told to:

a) separate tires into piles of no more than 5,000 tires with fire lanes between piles;

b) institute security measures, such as guards, guard dogs and six-foot fences around sites; and

c) construct a reservoir, where required, to provide water in the event of fire. The province also announced it planned to introduce a series of legislative changes regarding the management of scrap tire stockpiles. These included:

- changing the Fire Code to create a separate section for tire storage depots, strengthen fire prevention measures, require improved site access, enable improved on-site fire fighting measures, and provide greater security for tire storage depots;

- amending the Fire Marshall's Act to enable special precautions in cases where hazards presented a threat to the environment, with immediate action to be taken in cases where orders were being appealed; and

- changing the Environmental Protection Act and Fire Code to allow the province to take immediate action in cases where there is a special risk to life, property or the environment.

Since that time, the provincial government has made these legislative changes and inventoried tire storage sites in Ontario. It has also inspected the identified sites to ensure they comply with the various laws in this area and whether or not they need Certificates of Approval. Sites not in compliance with the legislation have had charges laid against them. For those private sites which need approvals, the province has arranged for security until the approvals can be issued. It hopes, in this way, to reduce the chance of more fires.

2.4 Report in 1991

In January 1991, the Ontario MOE released another report on Scrap Tire Management in Ontario. Prepared for the MOE and its Ontario Scrap Tire Task Force by a group of consultants, it said the MOE's three major challenges were to: decrease scrap tire generation and promote diversion of scrap tires from disposal to productive use, determine under what conditions scrap tires should be allowed to accumulate since recycling can only absorb a fraction of the scrap tires generated in Ontario, and create environmentally acceptable destinations for scrap tires.

The comprehensive report said Ontario needs to address the concerns that:

a) legal destinations, at a reasonable price, are needed for scrap tires;

b) the revenue from the tire tax is not being channelled into programs which effectively deal with the high cost of scrap tire management; and

c) more markets are needed for products using materials derived from scrap tires. It also suggested policies to discourage scrap tire disposal in landfills and encourage productive use of these tires. The policy options presented for the MOE's consideration included: require shredding prior to landfilling; increase monitoring and enforcement to decrease illegal disposal and prevent shipment to jurisdictions with low landfill tipping fees; require manifesting of all scrap tire flows; provide economic incentives for recycling scrap tires; fund product and market development; and introduce government procurement policies favouring goods containing recycled materials.

The report emphasized that a short-term recycling solution to the scrap tire problem is not feasible as there is a lack of markets for products containing materials derived from scrap tires. It suggested Ontario's MOE could thus either encourage tire-derived fuel and shredding and landfilling or accept the costs and risks of storing whole or shredded tires for several years with the hope that markets would develop for recycled products.

Of particular interest to municipalities is that this report also said:

> "If not enough commercially-operated destinations for scrap tires can be developed, municipalities could be provided with the funds necessary to cover the costs of safely stockpiling scrap tires at municipal landfills and periodically disposing of them in the best way available at the time. In order to ensure that the tires are disposed of in an orderly fashion, the municipalities that control the tire piles could be required to issue a tender for disposal of the tires whenever a pre-determined number of tires had accumulated."[9]

2.5 The Scrap Tire Workshop

Following the release of that report, the MOE held a workshop on March 6 and 7, 1991 to discuss scrap tire management and the approach it should take. Workshop participants included representatives from all government levels, environmental groups, associations with an interest in scrap tire management, and business representatives such as tire manufacturers and retailers, manufacturers of value-added products and consultants. AMO's Ontario Scrap Tire Task Force representative was one of the participants.

The workshop said the most immediate problem is the lack of legal storage facilities for scrap tires. It recommended that present facilities be upgraded to ensure they are safe, additional facilities be created, and the MOE could help to accomplish this by streamlining its approvals process. The workshop also said a more coordinated system of collecting scrap tires is needed and the government should regulate all haulers and storage sites.

As for the use of scrap tires, the workshop recommended that tire-derived fuel should be used in the short-term to deal with the province's tire stockpiles and rubberized asphalt should continue to be explored. It said value-added products are the preferred long-term option for scrap tire management but incentives should be provided to encourage development of new technology, a secure scrap tire supply must be assured, and government procurement policies should encourage the use of recycled products.

The workshop also said all stakeholders - including government and industry - must work more closely to implement solutions and they must be accountable to each other. It recommended public education be on-going so consumers are better informed about proper tire use and care and those in the cycle of tire production, use and disposal are educated about updated scrap tire management options. As for the tire tax, the workshop recommended its funds be directed to finding solutions to the scrap tire problem.

2.6 The Minister of Environment's Position

After the workshop, the MOE consulted with more environmentalists and then the Minister of the Environment, the Honourable Ruth Grier, issued a letter outlining the direction in which she preferred to move for a "sound" scrap tire management strategy. The April 18, 1991 letter said she accepted most of the workshop's recommendations, except for tire-derived fuel.

In particular, the Minister said that, in the short term, receiving facilities must be established to accept scrap tires and store them in anticipation of end markets for recycled products containing rubber from tires. During the intermediate term, while markets and production capacity are developing for value-added products, the MOE must provide uses for a large volume of crumb rubber. Her preference was to pursue rubber asphalt technology, but the MOE first had to ensure rubber asphalt can be recycled and the emissions from the asphalt plants would not exceed environmental standards. The recycling tests were to be done during the summer of 1991. If rubber asphalt did not prove viable or practical, she said tire-derived fuel would then be judged on its merits as an intermediate "fall-back" option. For the long term, the MOE was to support the development of a sustainable tire recycling industry that would manufacture value added products from the rubber.

The Minister also said the Ontario Scrap Tire Task Force (OSTTF) would continue, with added input from environmental organizations, consumers, recyclers and unions. Its task would be to advise the MOE about implementing the minister's approach. The OSTTF would address the tire tax, approvals process, communications plans, and procurement policy issues. Many of these issues the MOE was also discussing with a variety of Ministries.

2.7 Ministry of the Environment Tire Grants

On March 15, 1990, Ontario's Minister of the Environment introduced a $16 million tire recycling program to encourage and assist implementation of a scrap tire management system based on the 3Rs of reduce, reuse and recycle. The program funds: capital funding for tire recycling plants, research and

development of technologies and market development, securing and eliminating stockpiles, establishing a collection and sorting infrastructure, and underwriting the use of recycled rubber in asphalt.

MOE staff report that the tire recycling fund received the $16 million allocation in 1990 and will receive another $16 million allocation in 1992. Between March 1990 and mid-September 1991, $30 million of that money had been committed to projects involving scrap tire waste management. Of these, four projects were related to crumbing rubber, four were for rubberized plastic, two were for rubberized asphalt (worth $5.1 million by March 1991), and four were for miscellaneous research and development.[10]

Of these projects, many do not directly, as yet, impact on the infrastructure which is available in Ontario to process scrap tires. A $280,000 grant, for instance, was given to Emery Associates of Colborne, Ontario, a research and development company which specializes in finding new applications for microwave technology. The project it is working on is trying to find a method to use a new microwave process to recycle scrap tires.[11]

Other MOE-funded projects may impact Ontario's ability to process scrap tires, but it will be some time before the full effect of their operations will be felt in decreasing the pile of scrap tires in Ontario. Resource Recovery Orangeville, for instance, was given a provincial grant of $856,000 last year to help it triple its capacity so it can process one million used tires per year. The grant covers 50 per cent of the plant's $1.7 million expansion and was to help it improve the quality and increase the variety of sizes of rubber crumbs which the plant produces for recycling.[12]

In mid-September 1991, National Rubber also announced it was creating a new company, National Rubber Recycling Inc., to build a new southern Ontario tire grinding facility. The MOE agreed to give it a matching grant of up to $3.5 million for capital equipment for the new tire grinding facility and a two-thirds matching grant of up to $4.4 million for research and market development of new products and new markets for crumb rubber produced by the facility. National Rubber announced that in its first year of operation, its plant would have an annual capacity of 2,500,000 tires. At the plant's capacity, which could take

five years to reach, the new tire facility would be able to process over 5 million tires per year. That amounts to 60 per cent of the waste tires generated in Ontario each year.[13] However, as the company itself has noted, it will be almost five years after the plant is completed that it will be able to process this capacity.

3 TIRE-DERIVED FUEL

3.1 Ontario Government's Position

AMO has, for some time, been calling for the Ontario government to clarify its energy-from-waste stand. On the one hand, the Ministry of Energy has had a funding program to encourage energy-from-waste. The Capital Assistance Program began in 1987 and had $25 million to allocate over five years to provide capital funds to encourage energy-from-waste projects. It offered municipalities funds for capital costs, providing the municipality had an Environmental Assessment approval before applying for a grant. The grant has been for 15 percent of the project's capital costs, up to a maximum of $6 million. At the same time, the Environmental Assessment Act has also required municipalities to consider energy-from-waste in its examination of all waste management alternatives.

On the other hand, the former Ontario Minister of the Environment, the Honourable James Bradley, discouraged energy-from-waste and said that waste reduced through energy-from-waste projects could not be calculated in municipalities' efforts to meet the MOE's goal of reducing municipal solid waste by 25 per cent by 1992 and 50 per cent by the year 2000.

On April 11, 1991, the new Minister of the Environment, the Honourable Ruth Grier, announced she was banning all future municipal solid waste incinerators in Ontario because the combustion of municipal solid waste during incineration releases a wide range of air pollutants. The Minister said incineration is not consistent with reduction, reuse and recycling "because it relies on a steady, large quantity of mixed waste" and it "is a superficial solution which does not attack the root of the problem - we must waste less."[14]

The announcement, which made Ontario the first provincial-level jurisdiction in North America to ban future municipal solid waste incinerators, also said the MOE would review the Certificates of Approval and monitoring requirements for the six solid waste incinerators currently operating in Ontario or already approved for future use.

Soon after this announcement, the Minister of the Environment's assistant deputy minister, Drew Blackwell, attended the May 7, 1991 meeting of AMO's Ad Hoc Waste Management Committee. He said the announcement included refuse-derived fuel from the municipal waste stream, but excluded biomedical waste and tire-derived fuel.

Meanwhile, the Minister of the Environment had written a letter on April 18, 1991 which announced her approach to the recommendations made by participants at the MOE's March 1991 scrap tire workshop. The letter said the Minister accepted most of the workshop's recommendations, except for tire-derived fuel. She said if her preferred choice of rubber asphalt did not prove viable or practical, tire-derived fuel would then be judged on its merits as an intermediate "fall-back" option. Her preferred long-term option was to support the development of a sustainable tire recycling industry that would manufacture value added products from the rubber.

3.2 Report to the Province

In January 1991, the Ontario Ministry of the Environment released a report, Scrap Tire Management in Ontario, which had been prepared for it by the consulting companies, Pilorusso Research Associates Inc., VHB Research and Consulting Inc., and T.A.G. Resource Recovery. In the report, the authors said, "Tire derived fuel (TDF) has the distinction of being the only application that is technically feasible, economically attractive without subsidies, and capable of absorbing all of Ontario's scrap tires in the short term. TDF's major shortcoming is that it is not high on the management hierarchy."[15]

The report said that while TDF contains sulphur and zinc oxide, which are not contained in coal and oil, TDF is considered an environmentally acceptable fuel in Europe and the United States.[16] In fact, TDF use in cement kilns has proven to be environmentally acceptable for several reasons. For one, cement kilns use extreme combustion conditions, including high temperature, turbulence and residence time, which assure optimum degradation of organics. The limestone present in the kiln also provides sulphur removal, and zinc, wire, and other ash constituents become an integral chemical part of the cement. These then replace alternative raw materials required to maintain proper cement chemistry. "As a result," said the January 1991 report, "kilns have generally demonstrated their ability to thoroughly burn and contain emissions from TDF."[17] The report added, "combustion applications are not the highest value recycling use for scrap tires, but the comparative cost of market development and low entry capital may make proper TDF application an attractive alternative to stockpiling while higher value uses are being developed."[18]

The report, Scrap Tire Management in Ontario, said the pulp and paper industry provides a potential outlet for scrap tires in northern Ontario. It also said the MOE could address public concerns about TDF's environmental performance "by ensuring that the testing protocol for currently planned and future trial burns will enable it to draw conclusions about the conditions under which the technology will be environmental acceptable for Ontario. This issue is currently being examined by a number of jurisdictions across the continent and provides the opportunity for fruitful communication and perhaps collaboration."[19]

3.3 Other Jurisdictions

Many other jurisdictions are using tire-derived fuel. Extensive use is being made of scrap tires as a cement kiln fuel in Germany, Switzerland, Austria, Denmark, the United Kingdom, and Japan with some usage in Greece, Spain and Mexico. Dedicated whole tire combustion units also exist in Germany, Italy and the United States, with a new, larger facility currently in the final development stages in England.[20]

In the United States, the decision for TDF is being taken on a state-by-state basis. A few examples are Minnesota, Oregon, Wisconsin and Maine. Minnesota has market development grants to fund studies of TDF trials and most tires have been converted to TDF for use outside the state.[21] Oregon provides subsidies to enhance market development for waste tires or chips, including their use as a fuel. The subsidies are paid to fuel users once they comply with the state's air and water pollution control regulations and obtain a certificate which states that the chips were produced from Oregon-sourced tires. In Oregon, there is interest in pursuing extensive testing required for TDF use by both cement and paper companies. Two paper companies and one cement kiln burn TDF in compliance with rigorous standards, others are in the permitting stage, and it is estimated that over 50 per cent of Oregon's scrap tires are used as fuel. In Wisconsin, most tires are being shredded for fuel use and new TDF customers are being developed. And, in Maine, one TDF customer has completed environmental testing and is using TDF under an interim approval.

At least one Canadian province, British Columbia, is also considering TDF as a partial solution for its scrap tire waste management problem. As of June 1, 1991, B.C.'s scrap tire program was to include many facets, including a province-wide ban on landfilling and unregulated stockpiling of tires, and scrap tire collection and recycling. B.C.'s program was to ensure that purchasers could return used tires to retailers, who would be required to accept at least one used tire for each tire purchased. This would prevent these tires from going to landfill sites or stockpiles. It would also direct them toward processing and recycling facilities, where they could be converted into other products. Especially interesting in this plan, however, is that during the interim period, while new recycling markets are being developed, B.C.'s program was also to allow a proportion of the used tires to be processed for use as fuel for cement kilns in B.C.'s lower mainland. The tires were to be burned in an environmentally-sound manner and serve as an alternative to coal.[22]

3.4 Industry's Position

The rubber manufacturing industry has long held that tire-derived fuel should be an option exercised in Ontario's scrap tire waste management program. In the fall of 1988, the Rubber Association of Canada formed a Task Force on Scrap Tire Disposal, which investigated Canada's scrap tire problem. The Rubber Association issued its report, Scrap Tires in Canada, in May 1989. Its main conclusions were that reuse and recycling processes would optimistically divert less than one-third of the scrap tires generated from disposal, so the development of tire-derived fuel offered a potential short term solution to Canada's scrap tire issue.

The Scrap Tire Management Council, based in Washington, D.C., also issued a report, Scrap Tire Use/Disposal Study, Final Report, on September 11, 1990. It noted that whole tires or tire-derived fuel could be used as supplemental fuel in cement kilns because the technology is proven. While burning tires in cement kilns would offer the least difficulty, the report said TDF could also be used as supplemental fuel in pulp and paper mills, utility boilers, and dedicated tire-to-energy facilities. In fact, it said, at least three U.S. kilns were already using TDF on an operating basis and another five were experimenting with scrap tires as fuel. The report concluded that, "Based on testing results, burning scrap tires or TDF in kilns does not adversely affect environmental performance or product quality."[23]

In Canada, several parties have re-iterated these stands. Brian James, the Rubber Association of Canada's president, agreed with the Ontario government's indicated preference that the best long-term solution is to find and develop manufactured products which can be made from recycled tires. But, in the short-term, he said scrap tires should be used as fuel and for road surfacing. "The Hagersville fire, and other smaller fires since," he said, "confirm that we cannot let this problem continue to "pile up" until we find the long-term solutions."[24]

Charles M. Cole, General Manager of St. Lawrence Cement, also said burning tires in rotary cement kilns is an accepted means of waste tire disposal in 29 European plants and European tests have "proven conclusively" that using tire waste in kilns has no detrimental effect on the quantity of greenhouse gases produced. In fact, he said the kiln emissions are

essentially unchanged from when conventional fuels, such as coal, are used. TDF also has the advantage of replacing up to 20 per cent of the coal used, thus reducing the consumption of a non-renewable resource. Mr. Cole's argument was the same as that of the consultant-prepared Scrap Tire Management in Ontario: kilns burn waste for a long time at high temperatures, the exhaust gases are then scrubbed by ground limestone, and the kilns do not produce ash requiring disposal in landfill sites because the ash becomes part of the cement.

Mr. Cole noted Canada's cement industry believes it can use tires as a valuable fuel resource. In 1988, he said St. Marys Cement in Ontario had a proposal before the MOE to burn tires as fuel in its kiln. But, the MOE rejected it and also refused a proposal to make a test burn to verify the industry's claims regarding the positive environmental aspects of this technology. Mr. Cole argued that had these proposals been instituted, the province could have avoided the Hagersville Tyre King fire.[25]

4 ONTARIO MUNICIPALITIES AND SCRAP TIRE MANAGEMENT

During early July 1991, AMO surveyed 86 Ontario municipalities to determine their methods for dealing with scrap tires and their concerns in this area. The survey questioned how each municipality dealt with tires - storage, landfilling, banning, or a combination - and whether it had experienced roadside dumping. The survey solicited each municipality's opinion or formal position on incineration of scrap tires. It also asked the municipalities to identify other concerns in the area or make recommendations which they would like to see implemented to address scrap tire waste management.

The results of the survey are presented in two parts. The first notes the various methods which Ontario's municipalities are taking to try to cope with the scrap tire waste disposal problem in the province. The second section highlights the areas which municipalities have identified as major scrap tire concerns.

4.1 Scrap Tire Management in Ontario Municipalities

AMO's July 1991 survey showed that municipalities across Ontario have adopted a wide variety of ways in which they try to cope with the scrap tire waste management problem. This patch-work of policies has resulted from the fact that there is not yet any all-encompassing provincial strategy for managing scrap tires. The Minister of the Environment has indicated in a letter her desire to move in several directions - including recycling and the use of rubberized asphalt. But, the infrastructure for these is not yet available and the option which could be available, tire-derived fuel, has been ruled, to date, as unacceptable.

- Many municipalities landfill tires, though some, such as the City of Peterborough, are not happy with this option because landfilling tires wastes a useful resource and the tires occupy valuable landfill space and are unstable in compacted landfill. The Regional Municipality of Ottawa-Carleton is considering the shredding of tires before they are buried, but this is a very expensive proposition. The City of Guelph used to store tires at the landfill, but there were no re-use or recycling initiatives, so it returned to landfilling them.

- A few municipalities only accept a limited number of tires. Oxford County's landfill accepts 25 tires per day per business. The Regional Municipality of Metropolitan Toronto only allows up to five tires per load of garbage.

- A few municipalities have banned tires from their local landfills. The Essex-Windsor Waste Management Committee said tires were banned from its area's local landfills in 1990, and the tires now are being sent to the U.S. Simcoe County has banned tire collection at all of its landfills. The City of Peterborough is considering a ban, but is concerned that tire removal services may not always be able to find outlets.

- Many municipalities are storing tires. Some store small quantities for short periods of time, then have contractors remove them with the hope that the tires will eventually be used for recycling.

One municipality indicated it understood that its contractor was sending its tires to the United States to produce rubberized asphalt. Many of the municipalities which have exercised this option have levied a per tire charge for accepting scrap tires. Fees range from $1.80 per tire brought to the landfill in the City of Sault Ste. Marie to $3 per passenger tire and $5 per larger tire in the Town of Lindsay.

These municipalities are very concerned about stockpiling. They wonder how long they must stockpile and how large the stockpiles may become. They are also concerned about the cost and location of disposal, and the increased chance of fire as their stockpiles grow.

- Many municipalities have experienced an increase in roadside tire dumping. Some municipalities believe this is directly tied to the introduction of tire bans or tire disposal fees at their landfill sites. Others believe it is because of policies instituted in other jurisdictions, such as the province or other municipalities which have exercised such means as tire bans at their landfills. Some municipalities are concerned about the increased cost which roadside dumping has meant because the municipalities must clean up their roadsides and then still deal with the tires.

4.2 Tire Issues Concerning Ontario Municipalities

The municipalities which responded to AMO's July 1991 survey expressed a number of major concerns about the direction which the Ontario government appears to be favouring in the development of its scrap tire waste management strategy. In particular, municipalities said:

- Provincial strategy: The province has studied scrap tire management for some time and now should introduce its strategy and make it a priority.

- Tire-derived Fuel: A majority of respondents indicated they or their municipalities would favour tire-derived fuel over tire storage until the province can ensure tires will be made into tire

crumb and used in another way. In the survey, 33 municipalities said tire-derived fuel was acceptable, 16 said it was not, and seven had no comment. Many municipalities said incineration should only be used if emissions are controlled and the latest technology used to ensure this method is environmentally safe. Respondents said a test burn should first be conducted to evaluate emissions and other concerns related to this option. The test could then alleviate concerns and decrease the rapidly growing stockpiles.

Many municipalities are familiar with the efforts of the Ontario company, St. Marys Cement Co., which has tried to get a test burn to test tire-derived fuel made from scrap tires as a supplemental fuel in the firing of their cement kilns. AMO has letters from many municipalities, including County of Oxford, City of Kitchener, County of Wellington and Township of Puslinch, which have endorsed this effort and are willing to see Ontario's scrap tire waste management problem addressed through tire-derived fuel.

- Storage facilities: If the province does not endorse the use of tire-derived fuel, it should establish tire storage facilities. Storage should not become a long-term solution. Some municipalities favour shredding tires before storing them to reduce space and cost because shredded tires are much safer to store and this radically reduces the possibility of them burning.

- Tire recycling and reuse: The province needs to put more emphasis on developing technology and end-use markets for recycling tires. Various municipalities said the province should: consider how to reduce the number of tires being used, promote retreading, and consider such tire uses as fish habitats and bank stabilization.

- Private Sector: The tire-related private sector - tire manufacturers, wholesalers, and retailers - should also be responsible for tire disposal. Its profit could help to fund the disposal of the waste its product generates. Municipal tax-payers would then not have to bear the full cost. One respondent indicated this approach might induce

tire manufacturers to extend tire life or make tires easier to dispose. Another said research should be done to establish such minimum tire standards as tire life.

- Bans: Provincial legislation should be used to ban the landfilling of tires as soon as alternative disposal options are available.

- Tire Tax: Many municipalities said the tire tax revenue should be used to address Ontario's scrap tire problem. It could fund costs of disposal, storage, and research and development. Many municipalities were offended that because the province was not doing this, consumers had to pay both the tire tax and a tire disposal cost at retail outlets or landfills. One municipality suggested a tire rebate program be established for all tires returned to approved tire recycling plants and that this rebate could be paid from the present tire tax.

5 AMO'S POSITION

The Association of Municipalities of Ontario has been concerned about Ontario's scrap tire waste management problem for some time. It has had a representative on the Ontario Scrap Tire Task Force since December 1989, and it has been monitoring the Ontario government's movement in this area.

During the last few years, AMO's member-municipalities have expressed concern about the scrap tire waste management problem and the province's tire tax through resolutions passed at AMO's annual conferences. The resolutions, which have been forwarded to the province, have urged the province to: initiate markets for recycled tires; use the tire tax to develop and implement a province-wide system for the environmentally sound collection and disposal of scrap tires; support the immediate establishment of used tire depots in the various regions of Ontario where used tires are collected and shredded for recycling or other forms of disposal.

AMO is presenting this policy position in the hope that the Minister of the Environment and the Ontario government will consider municipalities' concerns as they continue to work on developing the province's scrap tire waste management theory. AMO's policy position has several points, which are to be noted along with its policy recommendations.

5.1 Ontario Tire Tax

The Ontario government currently has the highest tire tax of any North American jurisdiction, and that tax generates an estimated $40 million of revenue per year. Since the tax was motivated by concerns about scrap tire waste management, many are saying this money should be used to address Ontario's scrap tire waste problem. Even the respondents during the public consultation on the MOE's 1990 discussion paper, Towards a Sustainable Waste Management System, said, "Tire tax revenues should be applied exclusively towards a waste tire management solution."[26]

While MOE staff have said the tax's revenue enables the MOE to ask for funds for its tire recycling program, not all of the revenue is dedicated to finding a solution for scrap tire waste management. As noted in Scrap Tire Management in Ontario, none of the tax as yet compensates for the costs of actual disposal.[27] The MOE's Background Information on Scrap Tire Management In Ontario, also says many tire stockpile site owners are having trouble complying with Fire Code and Certificate of Approval provisions because they are "faced with a lack of funds, a lack of recycling and disposal facilities accepting scrap tires, or have insufficient site area to allow pile separation or water storage to comply with the Fire Code."[28]

Many people are also being asked to pay not only the $5 tire tax, but also a tire disposal fee when the tire becomes waste and is to be disposed. This means they are being charged twice for the same problem. This concern was pointed out to the province's Minister of Revenue, the Honourable Shelley Wark-Martyn, in the provincial legislature on March 20, 1991.

AMO urges the provincial government to dedicate all of the Ontario tire tax revenue to find a way to deal with Ontario's scrap tire waste problem. This would help the

province finally finish addressing this long-standing problem and also prevent people from being charged twice to address a problem which is not being solved.

RECOMMENDATION #1:

The Ontario government should spend 100 per cent of the money collected from the Ontario tire tax to find a satisfactory method for dealing with Ontario's scrap tire waste problem.

5.2 Provincial Initiative

Since the introduction of Ontario's tire tax and the mid-February 1990 Tyre King fire in Hagersville, the Ontario government has increased its control over scrap tire management in Ontario. However, to date, the Minister of the Environment has only issued a letter indicating the direction in which she prefers to see the province move with regard to scrap tire waste management. The provincial government still has not developed an official scrap tire waste management policy.

Work is progressing on the policy, and AMO's representatives are involved with two levels of the work - the MOE waste reduction working group on Institutional Commercial and Industrial (ICI) - Tires, and the Ontario Scrap Tire Task Force. But, some of the work has been going on for several years and the MOE is repeatedly receiving the same advice. The MOE is beginning to move on some of the elements, such as giving grants to companies which may provide the infrastructure for tire crumbing and recycling, and for that the MOE should be commended. But those initiatives will not be operational for some years and the number of scrap tires being stockpiled in Ontario is steadily increasing.

AMO urges the province to increase the pace at which the short-term policy solutions for the scrap tire problem are being addressed and then introduced. This should continue to be done in consultation with municipalities and it should result in a provincial scrap tire policy statement rather than a letter or a news release.

RECOMMENDATION #2:

The Ontario government should increase the pace at which the short-term policy solutions for the scrap tire problem are being addressed and then introduced. This should continue to be done in consultation with municipalities and it should result in a provincial scrap tire policy statement

5.3 Stockpiling

While Ontario is developing a scrap tire waste management policy, municipalities are still faced with growing concerns about both the present stockpiling and the place of stockpiling in the Minister of the Environment's "preferred direction" for scrap tire management in Ontario. Recycling technology and markets for recycled rubber are not yet developed and they are not expected to be developed for several more years. With no solution other than rubberized asphalt, which is also still being developed as an alternative, stockpiling appears to be the Minister's short-term solution for the scrap tires. This is particularly true since more and more municipalities are beginning to ban tires from their landfills in order to preserve their increasingly limited landfill space.

Even the report, Scrap Tire Management in Ontario, noted, "One major objective of tire programs is generally prevention of uncontrolled tire stockpiles that become public liabilities."[29] Although the MOE is attempting to control these stockpiles through an inventory, certificates of approval, more stringent regulations, and inspections, the fact is that more tires are becoming available to be stockpiled and this increases the risk of them ending up in non-controlled situations. This increases the risk of another environmentally dangerous and costly fire, such as that experienced at the Hagersville Tyre King site.

AMO does not believe the province should pursue the stockpiling option. If it does, AMO urges the provincial government to:

a) determine, in consultation with municipalities and the private sector, what the legal destinations should be for stockpiling all scrap tires generated in Ontario;

b) ban the landfilling of tires once these legal stockpiling destinations have been determined and established;

c) establish, in consultation with municipalities, a limit for the number of scrap tires which will be stockpiled; and

d) agree to practice the incineration of tires for tire-derived fuel once the limit for stockpiled tires has been reached.

5.4 Tire-derived fuel

Municipalities appreciate the concern which the Minister of the Environment has for incineration and its effect on the environment. Municipalities, too, are concerned that appropriate measures be taken to protect the environment during incineration. At the same time, municipalities are very concerned that the Minister is not more seriously considering tire-derived fuel as one of the short or long-term solutions for the scrap tire waste management problem in Ontario. Reports from the private sector, consultants working for the MOE, and even other jurisdictions have indicated that tire-derived fuel can be an option and it can be exercised to address Ontario's scrap tire waste management problem. In fact, municipalities believe it can be a much safer option than allowing large tire stockpiles to grow throughout the province where they may be the subject of arson and thus create yet another tire fire such as that at the Hagersville Tyre King site.

The Minister of the Environment, herself, has said that if rubberized asphalt does not prove viable or practical, tire-derived fuel would then be judged on its merits as an intermediate "fall-back" option.

Municipalities believe that tire-derived fuel should be tested now, rather than after the testing of rubberized asphalt. This is essential so this option for scrap tire waste management is available as soon as possible. The Minister of the Environment then should introduce tire-derived fuel, at a minimum, as an interim measure until all scrap tires in Ontario can be recycled. The exercise of this option would address municipalities' growing concern about the increasing number of tires being, or soon to be, stockpiled around the province.

5.5 General Recommendation

AMO supports the use of tire-derived fuel and urges the provincial government to approve of its use as soon as possible. AMO supports the use of rubberized asphalt if this is subjected to, and meets, environmental and performance standards. AMO also favors the use of other processes by which value-added products are created from scrap tires.

AMO does not support the stockpiling of tires in Ontario. The reasons for this have been outlined in this paper, and AMO strongly urges the provincial government not to pursue this strategy, which is both costly and potentially dangerous for the environment. AMO recognizes that with this position, municipalities may have to consider lifting their bans of tires from landfills until the other AMO-approved means of scrap tire management - tire-derived fuel, rubberized asphalt, and the creation of value-added products - are developed and approved by the provincial government.

In its general recommendation, AMO says the options which it supports should be implemented by the provincial government as soon as possible and should be user-pay. The Minister of the Environment should use all haste in pursuing the options AMO supports as a long-term solution to scrap tire management in Ontario.

RECOMMENDATION #3:

The Ontario government should:

a) approve the use of tire-derived fuel;

b) use rubberized asphalt if it is subjected to, and meets, environmental and performance standards;

c) use other processes by which value-added products are created from scrap tires;

d) not pursue the philosophy, even in the short-term, of stockpiling scrap tires;

e) ensure the systems which are implemented are user-pay; and

f) use all haste in pursuing the options which AMO supports as a long-term solution to scrap tire management in Ontario.

6 CONCLUSION

The Association of Municipalities of Ontario and its member-municipalities are seriously concerned about the development of the Ontario government's scrap tire waste management policy. In this paper, AMO has indicated the state which the province now is facing, the policy directions it is favouring, and the ways municipalities are trying to cope. AMO has noted municipalities' concerns and spelled out a framework which it urges the provincial government to discuss with AMO and develop as soon as possible. Neither Ontario's municipalities nor the Ontario government wishes to see another tire fire such as was experienced at the Tyre King site in Hagersville in February 1990. But, to avoid this, the provincial government must develop a scrap tire policy which can be instituted.

7 SUMMARY OF RECOMMENDATIONS

Recommendation #1

The Ontario government should spend 100 per cent of the money collected from the Ontario tire tax to find a satisfactory method for dealing with Ontario's scrap tire waste problem.

Recommendation #2

The Ontario government should increase the pace at which the short-term policy solutions for the scrap tire problem are being addressed and then introduced. This should continue to be done in consultation with municipalities and it should result in a provincial scrap tire policy statement rather than a letter or a news release.

Recommendation #3

The Ontario government should:

a) approve the use of tire-derived fuel;

b) use rubberized asphalt if it is subjected to, and meets, environmental and performance standards;

c) use other processes by which value-added products are created from scrap tires;

d) not pursue the philosophy, even in the short-term, of stockpiling scrap tires;

e) ensure the systems which are implemented are user-pay; and

f) use all haste in pursuing the options which AMO supports as a long-term solution to scrap tire management in Ontario.

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Appendix A - Acknowledgments

The Association of Municipalities of Ontario would like to thank the members of its Ad Hoc Waste Management Committee who volunteered their time to produce this document. It also wishes to thank the AMO staff who worked with the committee to develop this report. The members of the team were:

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91-15	AMO's Response to "The Report of the Advisory Committee to the Minister of Municipal Affairs on the Provincial-Municipal Financial Relationship, 1991" (The Hopcroft Report)
91-16	AMO's Policy Position on: Scrap Tire Management and the Ontario Tire Tax

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